

Applications of the mean Euler characteristic.

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Abstract:

The mean Euler characteristic of a contact manifold is defined as a certain average of the Euler characteristic of the contact homology groups. In nice cases this invariant can be computed by counting periodic Reeb orbits as was shown by Ginzburg, Kerman, and Espina. We give some simple applications of this invariant. For instance, we use the mean Euler characteristic to show the non-existence of fillings, and use this information to show that certain symplectomorphisms are not isotopic to the identity.